

K. Takayama et al.
U.S. Serial No. 10/722,332
Page 3 of 10

Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

Claim 1 (currently amended): A magnetic recording medium, comprising:

a substrate;

a metal layer formed on said substrate, said metal layer having unspontaneous magnetization property;

a first magnetic layer formed on said metal layer; and

a second magnetic layer formed on said first magnetic layer, said second magnetic layer having a greater ~~largest possible peak~~ absolute value of total magnetization than said first magnetic layer within a temperature range of from a room temperature to a Curie temperature of the second magnetic layer.

Claim 2 (original): The magnetic recording medium as set forth in claim 1, wherein:

the largest possible absolute value of magnetization in said second magnetic layer is greater than the largest possible absolute value of magnetization in said first magnetic layer by not less than 1.2 times within the temperature range of from the room temperature to the Curie temperature.

Claim 3 (original): The magnetic recording medium as set forth in claim 1, wherein:

a thickness of said second magnetic layer in a direction perpendicular to a surface of said substrate is not less than 10 nm and not more than 50 nm.

Claim 4 (original): The magnetic recording medium as set forth in claim 1, wherein:

said first magnetic layer includes at least one kind of rare earth metal and at least one kind of 3d transition metal.

K. Takayama et al.
U.S. Serial No. 10/722,332
Page 4 of 10

Claim 5 (original): The magnetic recording medium as set forth in claim 1, wherein:
said first magnetic layer includes at least one kind of rare earth metal and at least one kind of 3d transition metal; and said second magnetic layer includes (A) at least one kind of rare earth metal other than the rare earth metal contained in said first magnetic layer, and (B) at least one kind of 3d transition metal.

Claim 6 (original): The magnetic recording medium as set forth in claim 1, wherein:
a temperature that maximizes the absolute value of magnetization in said second magnetic layer and a temperature that maximizes the absolute value of magnetization in said first magnetic layer are substantially equal to each other within the range of from the room temperature to the Curie temperature.

Claim 7 (original): The magnetic recording medium as set forth in claim 1, wherein:
said metal layer has grains on a surface opposite to a surface facing said substrate.

Claim 8 (original): The magnetic recording medium as set forth in claim 7, wherein:
each of the grains on said metal layer has a diameter of from 10 nm to 50 nm.

Claim 9 (original): The magnetic recording medium as set forth in claim 7, wherein:
the grains are formed with a density of from 400 grains/ μm^2 to 10000 grains/ μm^2 .

Claim 10 (original): The magnetic recording medium as set forth in claim 1, wherein:
a thickness of said metal layer in a direction perpendicular to a surface of said substrate is approximately 10 nm.

Claim 11 (original): The magnetic recording medium as set forth in claim 1, wherein:
a laser-assisted magnetic recording method is used for recording and reproducing.

K. Takayama et al.
U.S. Serial No. 10/722,332
Page 5 of 10

Claim 12 (currently amended): A magnetic recording medium which includes a substrate and a first magnetic layer, comprising:

a second magnetic layer having a greater ~~largest possible peak~~ absolute value of total magnetization than said first magnetic layer within a temperature range of from a room temperature to a Curie temperature of the second magnetic layer; and

a metal layer which is formed on the substrate and has made of metal having uns spontaneous magnetization property.

Claim 13 (original): The magnetic recording medium as set forth in claim 12, wherein:

a temperature that maximizes the absolute value of magnetization in said second magnetic layer and a temperature that maximizes the absolute value of magnetization in said first magnetic layer are substantially equal to each other within the range of from the room temperature to the Curie temperature.

Claim 14 (original): The magnetic recording medium as set forth in claim 12, wherein:

said second magnetic layer is formed on a surface of said first magnetic layer, the surface facing a magnetic head of a recording device or a reproducing device.

Claim 15 (original): The magnetic recording medium as set forth in claim 12, wherein:

said first magnetic layer includes at least one kind of rare earth metal and at least one kind of 3d transition metal.

Claim 16 (original): The magnetic recording medium as set forth in claim 12, wherein:

said second magnetic layer includes (A) at least one kind of rare earth metal other than rare earth metal contained in said first magnetic layer, and (B) at least one kind of 3d transition metal.

Claim 17 (withdrawn): A recording device, comprising:

heating means for locally heating a portion of a magnetic recording medium including a substrate, a first magnetic layer, a second magnetic layer having a greater largest possible

K. Takayama et al.
U.S. Serial No. 10/722,332
Page 6 of 10

absolute value of magnetization than said first magnetic layer within a temperature range of from a room temperature to a Curie temperature, and

a metal layer made of metal having unspontaneous magnetization property; and a magnetic head for applying a magnetic field on the portion heated by said heating means.

Claim 18 (withdrawn): A reproducing device, comprising:

heating means for locally heating a portion of a magnetic recording medium including a substrate, a first magnetic layer, a second magnetic layer having a greater largest possible absolute value of magnetization than said first magnetic layer within a temperature range of from a room temperature to a Curie temperature, and

a metal layer made of metal having unspontaneous magnetization property; and a magnetic head for detecting magnetization of the portion heated by said heating means.